CONCURRENCY: PRACTICE AND EXPERIENCE, VOL. 3, iii–vii (1991)

Volume Contents

VOLUME 3 NUMBER 1 FEBRUARY 1991

Sorting with Near Linear Speed-up on Tightly Coupled Multiprocessors
M. WHEAT 1

Exception Handling for a Communicating-sequential-processes-based Extension of C++
J.-M. ADAMO 15

Implementation of Apply on a Transputer Array
H. WANG, P. M. DEW AND J. A. WEBB 43

VOLUME 3 NUMBER 2 APRIL 1991

Real-time Multi-scale Vision on Multi-computers
R. BATTITI 55

Sequence Comparison on the Connection Machine
M. J. ATALLAH AND S. McFADDIN 89

Performance of a Benchmark Parallel Implementation of the Van Slyke and Wets Algorithm for Two-stage Stochastic Programs on the Sequent/Balance
K. A. ARIYAWANSA AND D. D. HUDSON 109

Cluster Identification Algorithms for Spin Models — Sequential and Parallel
C. F. BAILLIE AND P. D. CODDINGTON 129

Indexed or abstracted by 'Cambridge Scientific Abstracts', 'Computing Reviews', 'Data Processing Digest' and 'INSPEC'.

VOLUME 3 NUMBER 3 JUNE 1991

'Blade Runner': a Real-time Speech Recognizer
M. CHONG, F. FALLSIDE, T. MARSLAND AND R. PRAGER 145

Execution Time Support for Adaptive Scientific Algorithms on Distributed Memory Machines
H. BERRYMAN, J. SALTZ AND J. SCROGGS 159

The Parallel Computation of Eigenvalues and Eigenvectors of Large Hermitian Matrices using the AMT DAP 510
J. S. WESTON, M. CLINT AND C. W. BLEAKNEY 179

Parallel Processing Architectures used in a Real-time Display Application
J. R. VAUGHAN, G. R. BROOKES, M. A. FLETCHER AND D. P. M. WILLS 187

A Network Multi-processor for Experiments in Parallelism
T. A. MARSLAND, T. BREITKREUTZ AND S. SUTPHEN 203

Tiny: an Efficient Routing Harness for the Inmos Transputer
L. CLARKE AND G. WILSON 221

VOLUME 3 NUMBER 4 AUGUST 1991

Editorial
D. PRITCHARD 247

The Transputer and Occam: A Personal Story
C. A. R. HOARE 249

Product Label Inspection Using Transputers
M MIRMEHDI 265

Particle Flow Instrumentation
E. MILLS AND B. C. O'NEILL 275

Transputer Architectures for Sensing in a Robot Controller: Formal Methods for Design
P. J. PROBERT, D. DJIAN AND H. HU 283

A Transputer-based Instrument for the ESA/NASA Cluster Mission
C. M. DUNFORD, J. A. THOMPSON AND K. H. YEARBY 293

A Transputer Radar ESM Data Processor
R. BETON, J. KINGDON AND C. UPSTILL 303

The Radon Transform on a Dynamically Switched Transputer Network
G. HALL, T. J. TERRELL AND L. M. MURPHY 315

Algorithms and Timing for Identification of Objects from 2-D Images
W. LIN AND D. A. FRASER 325

MARVIN and TINA: A Multiprocessor 3-D Vision System
M RYGOL, S. POLLARD AND C. BROWN 333

A Visual Tracking System for the Measurement of Dynamic Structural Displacements
G. A. STEPHEN, E. L. DAGLESS AND C. A. TAYLOR 357

Distributing Gate-level Digital Timing Simulation Over Arrays of Transputers
K. R. WOOD 367

DACAPO-III: Parallel Multilevel Hardware Simulation on Transputers
P. GRABIENSKI 381

Object-oriented Simulations in Mechatronics
A. EPPINGER 387

Visual Simulation by Means of a Transputer Network for a Driving Simulator
P. ZIMMERMANN 399

Experiments with a Transputer-based Parallel Graph Reduction Machine
F. A. RABHI AND G. A. MANSON 413

The Solution of Radiation Engineering Problems on a Transputer-based System
S. A. KHADDAJ, H. AL-BAHADILI, A. J. H. GODDARD, C. R. E. DE OLIVEIRA AND J. WOOD 423

VLSI Design Stations Using Transputers
S. CHRISTIAN 435

The Metrobridge—an Application of Transputers in Transparent Bridging
B. ROBERTSON, M. CHOPPING, K. ZIELINSKI AND D. MILWAY 445

Forthcoming Papers 455

VOLUME 3 NUMBER 5 OCTOBER 1991

Performance of Dynamic Load Balancing Algorithms for Unstructured Mesh Calculations
R. D. WILLIAMS 457

Two Approaches to the Concurrent Implementation of the Prime Factor Algorithm on a Hypercube
G. ALOISIO, E. LOPINTO, N. VENEZIANI, G. C. FOX and J. S. KIM 483

Forthcoming Papers 497

VOLUME 3 NUMBER 6 DECEMBER 1991

Editorial
A. MURLI AND P. MESSINA 499

Parallel Computing in the 1980s–One Person's View
P. C. MESSINA 501

ES-Kit: An Object-oriented Distributed System
A. CHATTERJEE, A. KHANNA AND Y. HUNG 525

The EMMA2 Multiprocessor Operating System
E. APPIANI, D. BIANCO, L. MERLO AND L. RONCAROLO 541

Portable Tools for Fortran Parallel Programming
S. P. KUMAR AND I. R. PHILIPS 559

Multiprocessors and Run-time Compilation
J. SALTZ, H. BERRYMAN AND J. WU 573

Synchronization and Load Imbalance Effects in Distributed Memory Multi-processor Systems
D. C. MARINESCU AND J. R. RICE 593

Physical Computation
G. C. FOX 627

LAPACK: A Portable Linear Algebra Library for High-performance Computers
J. DEMMEL 655

Numerical Simulation of Incompressible Fluid Flows
G. ANAGNOSTOU, Y. MADAY, A. T. PATERA, P. F. FISCHER AND E. M. RØNQUIST 667

The Use of the CAPE Environment in the Simulation of Rock Fracturing
M. G. NORMAN, J. R. HENDERSON, I. G. MAIN AND D. J. WALLACE 687

Analysis of Multidimensional Images on the Connection Machine System
G. MARCENARO AND M. TISTARELLI 699

Aeroelastic Applications of the Connection Machine
S. R. SIPCIC AND T. WESTBROOK 715

Achievements and Prospects for Parallel Computing
G. C. FOX 725

Author Index 741

Volume Contents iii